

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A quadrature modulation apparatus comprising:
 - an in-phase signal converter ~~converting means~~ that outputs an in-phase conversion signal by mixing an in-phase local signal of a predetermined local frequency with an in-phase correction user signal obtained by adding an in-phase user signal to an in-phase correction signal of a sinusoidal voltage;
 - a quadrature signal converter ~~converting means~~ that outputs a quadrature conversion signal by mixing a quadrature local signal which is different in phase by 90 degrees from the in-phase local signal, with a quadrature correction user signal obtained by adding a quadrature user signal to a quadrature correction signal, which is different in phase by 90 degrees from the in-phase correction signal;
 - an adder ~~adding means~~ that adds the in-phase conversion signal to the quadrature conversion signal;
 - an output voltage measurer ~~measuring means~~ that measures an output voltage of said adder ~~adding means~~; and

an error determiner ~~determining means~~ that determines an error of the quadrature modulation based upon the measurement result of said output voltage measurer ~~measuring means~~.

2. (Currently Amended) The quadrature modulation apparatus according to claim 1, wherein said error determiner ~~determining means~~ measures the error of the quadrature modulation based upon a relationship of the output voltage of said adder ~~adding means~~ with respect to the phase of the in-phase correction signal or the quadrature correction signal.

3. (Currently Amended) The quadrature modulation apparatus according to claim 1, wherein said error determiner ~~determining means~~ determines an error relating to an amplitude, an orthogonality, and an offset of the in-phase user signal and the quadrature user signal.

4. (Currently Amended) A quadrature modulation apparatus comprising:
a signal converter ~~converting means~~ that outputs a conversion signal by mixing a local signal of a predetermined local frequency with an offset user signal obtained by adding a DC voltage signal to a user signal;

an output voltage measurer ~~measuring means~~ that measures a voltage of the conversion signal; and

an optimum voltage decider ~~deciding means~~ that decides an optimum voltage such that the voltage measured by said output voltage measurer ~~measuring means~~ is minimum.

5. (Currently Amended) A quadrature modulation method comprising:

~~an in-phase signal converting step of outputting an in-phase conversion~~
signal by mixing an in-phase local signal of a predetermined local frequency with
an in-phase correction user signal obtained by adding an in-phase user signal to
an in-phase correction signal of a sinusoidal voltage;

~~a quadrature signal converting step of outputting a quadrature conversion~~
signal by mixing a quadrature local signal which is different in phase by 90
degrees from the in-phase local signal, with a quadrature correction user signal
obtained by adding a quadrature user signal to a quadrature correction signal,
which is different in phase by 90 degrees from the in-phase correction signal;

~~an adding step of adding the in-phase conversion signal to the quadrature~~
conversion signal;

~~an output voltage measuring step of measuring an output voltage of the~~
added signals ~~said adding step~~; and

~~an error determining step of determining an error of the quadrature~~
modulation based upon the measured ~~measurement result of said output voltage~~
~~measuring step~~.

6. (Currently Amended) A quadrature modulation method comprising:

~~a signal converting step of outputting a conversion signal by mixing a local~~
signal of a predetermined local frequency with an offset user signal obtained by
adding a DC voltage signal to a user signal;

~~an output voltage measuring step of measuring~~ an output voltage of the conversion signal; and

~~an optimum voltage deciding step of deciding an optimum voltage such that the voltage measured by said output voltage measuring step is minimum.~~

7. (Currently Amended) A program of instructions for execution by a the computer to perform a processing of a quadrature modulation apparatus including: an in-phase signal converter ~~converting means~~ that outputs an in-phase conversion signal by mixing an in-phase local signal of a predetermined local frequency with an in-phase correction user signal obtained by adding an in-phase user signal to an in-phase correction signal of a sinusoidal voltage; a quadrature signal converter ~~converting means~~ that outputs a quadrature conversion signal by mixing a quadrature local signal which is different in phase by 90 degrees from the in-phase local signal, with a quadrature correction user signal obtained by adding a quadrature user signal to a quadrature correction signal, which is different in phase by 90 degrees from the in-phase correction signal; an adder ~~adding means~~ that adds the in-phase conversion signal to the quadrature conversion signal; and an output voltage measurer ~~measuring means~~ that measures an output voltage of said adder ~~adding means~~, said processing comprising:

~~an error determining step of determining an error of the quadrature modulation based upon the measurement result of said~~ measured output voltage ~~measuring means.~~

8. (Currently Amended) A program of instructions for execution by a the computer to perform a processing of a quadrature modulation apparatus including: a signal converter ~~converting means~~ that outputs a conversion signal by mixing a local signal of a predetermined local frequency with an offset user signal obtained by adding a DC voltage signal to a user signal; and an output voltage measurer ~~measuring means~~ that measures a voltage of the conversion signal, said processing comprising:

~~an optimum voltage deciding step of~~ deciding an optimum voltage such that the voltage measured by said output voltage ~~measuring means~~ is minimum.

9. (Currently Amended) A computer-readable medium having a program of instructions for execution by a the computer to perform a processing of a quadrature modulation apparatus including: an in-phase signal converter ~~converting means~~ that outputs an in-phase conversion signal by mixing an in-phase local signal of a predetermined local frequency with an in-phase correction user signal obtained by adding an in-phase user signal to an in-phase correction signal of a sinusoidal voltage; a quadrature signal converter ~~converting means~~ that outputs a quadrature conversion signal by mixing a quadrature local signal which is different in phase by 90 degrees from the in-phase local signal, with a quadrature correction user signal obtained by adding a quadrature user signal to a quadrature correction signal, which is different in phase by 90 degrees from the in-phase correction signal; an adder ~~adding means~~ that adds the in-phase conversion signal to the quadrature conversion signal; and an output voltage

~~measurer measuring means~~ that measures an output voltage of said ~~adder~~
~~adding means~~, said processing comprising:

~~an error determining step of determining an error of the quadrature~~
modulation based upon the ~~measurement result of said~~ measured output voltage
~~measuring means~~.

10. (Currently Amended) A computer-readable medium having a program of instructions for execution by a the computer to perform a processing of a quadrature modulation apparatus including: a signal converter ~~converting means~~ that outputs a conversion signal by mixing a local signal of a predetermined local frequency with an offset user signal obtained by adding a DC voltage signal to a user signal; and an output voltage measurer ~~measuring means~~ that measures a voltage of the conversion signal, said processing comprising:

~~an optimum voltage deciding step of deciding an optimum voltage such~~
that the voltage measured by said output voltage ~~measuring means~~ is minimum.